

REMARKS

Applicants note that the drawings are now acceptable.

Claim 2, which was objected to, has been combined with claim 1 as it stood before the current amendment. Accordingly, claim2 is believed allowable.

Claim Rejections

The Examiner has rejected Claims 7, 8, 10, and 40 "under 35 U.S.C. 102(b) as being anticipated by Kirschner (US 3,215,225).

The Examiner states:

In regard claim 7, Kirschner teaches a laminated structure comprising at least one internal layer of a selected material 13. The internal layer 13 is interposing between layer 12 and lower layer 11, cemented as by rubber cement, which serves as viscoelastic glue (cement functions as glue and rubber functions as elastic) layers, one layer bonded with the layer 12 and another layer bonded with layer 11, at least one additional layer on the other side of each internal layer of viscoelastic glue would be either layer 12 or 11 (see figure 1 and column 4, lines 10-14)..

In regard claims 8, 10, Kirschner teaches the claimed invention, wherein further comprising at least one additional layer an external layer, which including layers 10 and 12 of sound absorbing material.

In regard claim 40, Kirschner teaches the claimed invention comprising a layer of first non-metallic material 13 (see column 4, lines 8-13) having two surfaces, one of said two surfaces comprising an outer surface, a layer of viscoelastic glue (see above explanations) on the other of said two surfaces and a layer of a second material 11 over said viscoelastic glue.

These rejections are respectfully traversed.

Claim Rejections – 35 U.S.C § 102

The rejection of claim 40 "under 35 U.S.C. 102(b) as being anticipated by Kirschner (US 3,215,225)" is respectfully traversed. Kirschner neither suggests nor discloses Applicants' claimed invention. As described by Kirschner in col. 2, lines 51-56:

FIGURE 1 shows a typical panel embodying the invention constructed of four layers of material. *The outside faces 10 and 11 of the panel are sheet metal*, such as sheet steel, stainless steel, aluminum, brass, and the like, depending on the acoustical, thermal or other requirements of the panel. (*Italics added*).

Applicants' claim 40 expressly recites a structure comprising "a layer of first *non-metallic* material having two surfaces, one of said two surfaces comprising an outer surface". (*Italics added*). Kirschner, as quoted above, expressly calls for both outside faces of the panel to be sheet metal, such as sheet steel, stainless steel, aluminum, brass and the like,...". Kirschner fails to suggest or disclose applicants' structure recited in claim 40 and, in fact, expressly teaches away from this structure. Accordingly, claim 40, as it stands, is allowable over Kirschner

Claim 41 is allowable over Kirschner for at least the same reasons as is claim 40.

New claim 42 recites the same structure as in claim 41 but expressly recites that the second material is also "non-metallic". Accordingly, claim 42 distinguishes over Kirschner for the same reasons as does claim 40 and also by expressly reciting that the second material is "*non-metallic*". (*Italics added*)

#### Claim Rejections – 35 U.S.C. §103

The Examiner has rejected claims 1 and 26 "under 35 U.S.C. 103(a) as being unpatentable over Nudo (US Pub. No. 2004/0177590) in view of Jonsson (US 5,476,560). This rejection is also respectfully traversed.

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The Examiner states that

"[i]n regard claims 1, 26, Nudo teaches a composite structural panel comprising two external layers of fly wood 22 thus non-metallic material, at least one internal constraining layer 16, 18 made out of plastic (col.2, paragraph 28, line 5). Because of the phrase "at least one internal constraining layer" as cited, the examiner's interpretation it could be more than one layers, therefore the internal constraining layer taught by Nudo composed of layers 16 and 18 together. Two adhesive layers 20 separated by said at least one internal constraining layer. Nudo does not specifically teach the two internal layers separated by the constraining layer are made of viscoelastic glue. Jonsson teaches method of producing an improved hull for accomplishing high finish, good acoustic by having a plurality of sheets or mats of cellular plastic are glued by viscoelastic glue (see abstract). At the time of the invention, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to substitute Nudo adhesive material for Jonsson well known viscoelastic glue in the art for a stronger bonding and acoustic damping purposes.

Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nudo in view of Jonsson and further in view of McLaren (US 4,196,242).

Nudo in view of Jonsson teach the claimed invention as stated except for the external layers comprise each a selected thickness gypsum board layer. McLaren teaches a well-known gypsum board (col. 1, line 34) for building structures. At the time of the invention, it would have been obvious to one having ordinary skill in the art to substitute Nudo external fly [sic] wood layers for gypsum boards because they are commonly used in building construction.

Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kirschner.

In regard claim 41, Kirschner teaches the claimed invention as stated. And wherein the second material 11 is thinner than the first material layer 13 (as shown in fig.1); However, Kirschner does not specifically teach the layer of second material falls in the range of 1/10 -1/2 of the first material. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a first layer is thicker than a second layer, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. The motivation for doing would have been to provide a stronger panel structure."

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These rejections are respectfully traversed.

Nudo discloses a structure using a "central honeycomb core layer having a pair of bonding layers adhered thereto." (Nudo, ¶ 0010). Claim 1 (Currently Amended), and all claims dependent on claim 1, distinguish from Nudo by reciting "at least one internal *non-honeycomb* constraining layer". (*Italics added*).

Claim 26 has been amended to depend from claim 24. Claim 24 has been amended to incorporate claim 1 as it stood in response to the last office action. In view of the fact that claim 24 was objected to and not rejected, claim 24 is now believed allowable. Claim 25, dependent on claim 24 is also allowable for at least the same reasons as is claim 24. Claim 26, rejected by the Examiner, has been made dependent on claim 24 (rather than claim 1) and thus is also believed allowable for at least the same reasons as is claim 24.

Claims 3 and 4 distinguish from Nudo in view of Jonsson and further in view of McLaren for at least the same reasons that claim 1 (Currently Amended) distinguishes over Nudo. In addition, claims 3 and 4 further distinguish from Nudo in view of Jonsson in that Jonsson's structure is a composite of "sheets or mats of cellular plastic ...glued to the outside of the hull with the aid of a glue giving an elastic or viscoelastic glue joint." (Jonsson, col. 2, lines 16 – 18). Jonsson's "hull" is "metallic". (Jonsson, col. 2, line 30). Thus claims 3 and 4 distinguish over Nudo in view of Jonsson at least by reciting "two external layers of a non-metallic material." While Jonsson refers to "good acoustic attenuation" as one of the objects of his invention (Jonsson, col. 2, line 12), Jonsson's structure has as one metallic external layer, namely the hull. See Jonsson, col. 3, lines 30 and 31 where Jonsson explicitly states that using his invention, "no treatment of the inside of the hull is needed at all, whereby it's inside will be easy to inspect, easy to keep clean and all corrosion problems are eliminated."

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Claims 3 and 4 further distinguish over "Nudo in view of Jonsson and further in view of McLaren (US 4,196,242)" by reciting the "non-honeycomb constraining layer" and by reciting two external layers of a non-metallic material and by reciting "two or more internal layers of a viscoelastic glue separated by said at least one internal constraining layer." McLaren places a ceramic coating on a plywood core to produce a flame-resistant plywood panel. (See McLaren, col. 2, lines 26 to 43 where a plywood panel 10 is described as being coated with "a ceramic mixture wetly applied ...for use as the backing and facing layers." (McLaren, col. 2, lines 36 to 38). McLaren teaches that the "back of the panel is punctured with a multiplicity of perforations 22". (McLaren, col.3, lines 3 and 4). Thus McLaren's structure would not be suitable for use to attenuate sound; rather these perforations would allow sound to be transmitted. Accordingly, there would be no motivation to combine Nudo (which teaches a "honeycomb" core) with Jonsson (which has one metallic external surface) and with McLaren (which perforates the backside of the panel to provide openings for gases to escape (McLaren, col.3, line 40)). Accordingly, the examiner's rejection is based on the use of hindsight, picking and choosing prior art references based on features from applicants' claims. This is improper.

Nudo's invention is intended to provide a "composite structural panel to provide a laminated panel structure which is adapted to be mounted to a building or other structure for protection from the elements." (Nudo, ¶ 0011). The composite structural panel "is formed of a central honeycomb core layer having a pair of bonding layers adhered thereto.... The bonding layers are formed of a suitable porous reinforcement material." (Nudo, ¶ 0010). Accordingly, Nudo neither suggests nor discloses Applicants' invention either taken singly or in combination with Kirschner. By having a central honeycomb layer, the panel suggested by

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Nudo would not be appropriate for sound reduction. By having bonding layers "formed of a suitable porous reinforcement material" the acoustical properties of the resulting panel would be even less satisfactory. Certainly, Nudo neither suggests nor discloses using a viscoelastic glue as part of the panel to absorb sound. To the contrary, Nudo's use of a porous reinforcement material for the bonding layer explicitly teaches away from using a viscoelastic glue to absorb sound. Accordingly, the Examiner's statement that one would be motivated to combine Nudo with Kirschner for the viscoelastic layer is incorrect. Rather, Nudo teaches away from the combination of Nudo with Kirschner by teaching the use of "porous reinforcement material" and the use of a "central honeycomb core layer".

Claim 1 has been amended to recited a "non-honeycomb" layer. Claim 26 has been amended to depend from claim 24 which is allowable. Accordingly, both claims 1 and 26 are allowable over Nudo taken together with Jonsson.

Claim 41 distinguishes from Kirschner for at least the same reasons (given above) as does claim 41. Accordingly claim 41 is allowable over the cited references for at least the same reasons as set forth above with respect to claim 40.

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CONCLUSION

Withdrawal of the rejections of claims 1-15, 24-26, 40 and 41 and allowance of these claims together with new claim 42 is respectfully requested. Should the Examiner's action be other than allowance, the Examiner is requested to telephone Applicants' attorney at (408) 392-9250.

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